

Application No. 10/632,268
Amendment dated June 28, 2005
Reply to Office Action of March 7, 2005

REMARKS

Introduction

Claims 1-26 were pending in the application at the time of the Office Action, mail dated March 07, 2005. Claims 1-26 stand rejected. In view of the foregoing amendments and the following remarks, Applicants respectfully request reconsideration and allowance of the application.

Rejections Under 35 U.S.C. §112, ¶2

Claims 1, 9, 11, 15 and 21 stand rejected under 35 U.S.C. §112, ¶2 as being indefinite for using the term "short." These claims have been amended to delete the term "short." To maintain consistency, the term "short" also was deleted from claims 13 and 19.

Claims 1, 8, 10, 13, 15, 19 and 21 stand rejected under 35 U.S.C. §112, ¶2 as being indefinite for recitation of the term "like." These claims have been amended to substitute the term "shaped" for the term "like." Applicants respectfully submit that these amendments overcome the rejections under 35 U.S.C. §112, ¶2.

Rejection under 35 U.S.C. §102(b) Based on Nees '737 Patent

Claims 1 and 6-14 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,266,737 to Nees. Nees discloses an irrigation sprinkler nozzle having a nozzle body (12) and a ramp (56). However, the ramp disclosed by Nees is one continuous ramp rather than a plurality of individual, discrete ramps as called for by the claims. To clarify this, claim 1 has been amended to recite a plurality of "discrete" ramps.

Further, the ramp (56) of Nees extends rearwardly and downwardly whereas the claimed ramp extends "forwardly and angularly downwardly therefrom." More specifically Nees states:

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A slot 54 is cut in nozzle 12 and extends down through the bottom of bore 23 of nozzle 12 when the sprinkler unit to which the nozzle is attached is in operating position. This slot 54 extends to a terminal end 56 which slopes so as to subtend an angle of greater than 90° between it and the axis of bore 23.

(Col. 2, ll. 46-51). Nees clearly does not disclose the ramps claimed in the present claims.

Therefore, Applicants respectfully submit that amended claim 1 is not anticipated by Nees. As claims 6-14 depend either directly or indirectly from claim 1, Applicants respectfully submit that claims 6-14 are allowable along with claim 1.

Rejection under 35 U.S.C §102(b) Based on Hegstad '687 Patent

Claims 1-26 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 2,778,687 to Hegstad. Applicants respectfully traverse this rejection. Hegstad fails to disclose the recited limitations of, "a nozzle outlet including a lower margin...and a plurality of ramps formed at the lower margin and extending forwardly and downwardly therefrom." The ramps (29) and (31) disclosed by Hegstad do not extend forwardly and downwardly from a lower margin. The limitation forwardly and downwardly requires disclosure of a plurality of ramps extending in a range of 0 to 90 degrees in a positive direction measured from the same frame of reference, such as the axis of the nozzle outlet. Neither ramps (31) nor (29) meet this requirement.

First, the walls (31) disclosed by Hegstad have nothing to do with guiding water, "to irrigate surrounding terrain relatively close to the sprinklers" as recited in the claims. To the contrary, they are what form the U-shaped end portion (20) designed to increase the range of the nozzle, *i.e.*, to water terrain relatively far from the sprinkler:

To increase the nozzle range, the U-shaped end portion 20 and therefore the major portion of the area of the orifice are disposed in a wall 23 (Fig. 3) defining the inner end of the internal recess 12. The liquid discharged through the U-

shaped orifice end thus flows straight through the nozzle body along its axis 24 and retains substantially all of the energy resulting from the liquid pressure. The recess end wall 23 is generally flat and lies substantially in a radial plane of the body so that the liquid discharged through the U-shaped orifice end tends to remain in a stream traveling longitudinally of the body axis 24 and to the outer part of the swath. It is believed that the increased throw of liquid achieved with the improved nozzle is due to discharge of the major portion of the liquid in such a stream which travels straight through the body.

(Col. 2, ll. 17-32).

It is plain from this disclosure that the walls (31) do not angle forwardly and downwardly as this would not achieve the goal of long range watering. Second, turning now to the walls (29), they also plainly do not angle forwardly and downwardly. As disclosed, they angle downwardly and outwardly:

The lines 28 of intersection between the walls 29 of the external groove and the internal arcuate wall 25 define the V-shaped orifice end portion 21, these edges converging toward the junction of the cylindrical side wall 22 and the arcuate intermediate wall 25 with the point of convergence spaced a short distance beyond the bottom of the internal groove defined by the arcuate wall.

(Col. 2, ll. 63-69).

For these reasons, the Hegstad reference fails to anticipate the claimed limitations of "forwardly and downwardly" of claims 1, 15 and 21, and because claims 2-14, 16-20 and 22-26 depend either directly or indirectly therefrom, Applicants respectfully submit that all of these claims are in condition for allowance.

Additional Remarks

Claims 1, 15 and 21 also were amended by deleting the term "plane" because it is unduly necessary. Claim 21 was further amended by deleting the first

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occurrence of the phrase "said nozzle outlet" in line 6 because the phrase was a redundant recitation.

Conclusion

In view of the foregoing, Applicants respectfully submit that claims 1-26 are in condition for allowance. Therefore, Applicants respectfully request reconsideration and allowance of this application.

The Commissioner is hereby authorized to charge any additional fees which may be required with respect to this communication or credit any overpayment to Deposit Account No. 06-1135.

Respectfully submitted,
FITCH, EVEN, TABIN & FLANNERY

By Mark W. Hetzler
Mark W. Hetzler
Registration No. 38,183

Dated: June 28, 2005

Suite 1600
120 South LaSalle Street
Chicago, Illinois 60603-3406
Telephone: 312.577.7000